



2018/2089(INI)

20.7.2018

DRAFT REPORT

on autonomous driving in European transport
(2018/2089(INI))

Committee on Transport and Tourism

Rapporteur: Wim van de Camp

Rapporteurs for the opinion (*):

Arndt Kohn, Committee on the Internal Market and Consumer Protection
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(*) Associated committees – Rule 54 of the Rules of Procedure

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MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

on autonomous driving in European transport (2018/2089(INI))

The European Parliament,

- having regard to the Commission communication of 17 May 2018 on the road to automated mobility: An EU strategy for mobility of the future (COM(2018)0283),
 - having regard to the Commission communication of 30 November 2016 on a European strategy on Cooperative Intelligent Transport Systems, a milestone towards cooperative, connected and automated mobility (COM(2016)0766),
 - having regard to its resolution of 13 March 2018 on a European strategy on Cooperative Intelligent Transport Systems¹,
 - having regard to Rule 52 of its Rules of Procedure,
 - having regard to the report of the Committee on Transport and Tourism and the opinions of the Committee on the Internal Market and Consumer Protection and the Committee on Legal Affairs (A8-0000/2018),
- A. whereas the EU strategy on connected and automated mobility is closely linked to the Commission's political priorities, notably those of its agendas for jobs, growth and investment, research and innovation, mobility and transport and the digital single market;
- B. whereas the overwhelming majority of road accidents are due to human error and, as such, there is an imperative need to reduce the possibilities for such errors, while maintaining personal mobility;
- C. whereas the EU should encourage and further develop digital technologies for automated mobility to reduce human error, traffic incidents and road fatalities;
- D. whereas several countries around the world (e.g. the US, China and Japan) are moving rapidly towards making both connected and automated mobility available on the market; whereas Europe needs to respond much more proactively to the rapid developments in this sector and to encourage initiatives;
- E. whereas the Declaration of Amsterdam (2016) outlines cooperation between the Member States, the Commission and industry in the field of connected and automated driving;
- F. whereas autonomous transport covers all forms of remotely piloted, automated and autonomous means of road, rail, waterborne and air transport;
- G. whereas the Commission communication on the road to automated mobility: An EU strategy for mobility of the future constitutes an important milestone in the EU strategy

¹ Texts adopted, P8_TA(2018)0063.

for connected and automated mobility; whereas emphasis must be placed on autonomous mobility, given that fully autonomous vehicles will be able to operate without connected functionalities;

General principles

1. Welcomes the communication on the road to automated mobility: An EU strategy for mobility of the future, which lays out an approach to make the EU the world leader in the deployment of safe systems for automated mobility increasing road safety and efficiency and combating congestion and emissions;
2. Recognises the initial steps taken by the Commission and Member States on automated mobility of the future and acknowledges the legislative initiatives regarding the ITS Directive¹ and the proposed revisions of the road infrastructure safety management directive² and the general safety of motor vehicles regulation³;
3. Acknowledges the potential of automated mobility for many sectors, including new business opportunities for start-ups, SMEs and industry;
4. Urges the Commission to present legislative actions, especially regarding data protection, data access and cyber security, as per its resolution of 13 March 2018 on a European Strategy on Cooperative Intelligence Transport Systems;
5. Points out that the communication lacks analysis of and proposals for autonomous vehicles in other modes of transport; calls on the Commission to ensure mode-specific analyses and strategies;
6. Welcomes the work done at the Council High Level Meetings on autonomous driving and would like to see that work extended also to address modes of transport other than road transport;
7. Underlines that technical standards of vehicles and infrastructure (e.g. traffic signs and signalling systems) should be developed and aligned at international, EU and national level, based on the principles of an open and technology-neutral approach and ensuring seamless cross-border interoperability;
8. Notes that vehicle and route data are fundamental building blocks for the achievement of autonomous driving; urges the Commission, therefore, to ensure that obstacles to the use of such data are dismantled and a robust regulatory system in this respect is put in place in a timely manner;
9. Stresses the expected massive increase in data produced by and gathered and transmitted from autonomous vehicles and underlines the need to use non-personal, anonymised data in order to deploy autonomous vehicles;
10. Underlines that fully autonomous vehicles will be commercially available by 2030 and that appropriate regulatory frameworks need to be in place as soon as possible in order

¹ OJ L 207, 6.8.2010, p. 1.

² COM(2018)0274.

³ COM(2018)0286.

to address the resulting changes;

Road transport

11. Recalls the new safety rules contained in the guiding principles for human machine interface proposed in the GEAR 2030 final report;
12. Urges the Commission and the Member States to reach a common position and to cooperate in order for the EU to take a leading role in the international technical harmonisation of automated vehicles within the framework of the UNECE and the Vienna Convention, in particular in all discussions by the UNECE World Forum for Harmonisation of Vehicle Regulations (Working Party 29) and the Working Party on Automated/Autonomous and Connected Vehicles (GRVA);
13. Underlines the need for clear legislation obligating the installation of event data recorders in line with the eCall Regulation¹ in order to clarify and enable the tackling, as soon as possible, of issues of liability;
14. Underlines the emerging concerns over user complacency when using vehicles that require a degree of driver intervention; calls for further studies to be conducted on the feasibility and safety of level3 automated vehicles, especially regarding the issue of signalling the need for intervention to the driver and dangers that can arise from any delays in intervening;
15. Calls on the Commission to develop, together with stakeholders, ethical guidelines for artificial intelligence and safeguard systems to provide a coherent approach to ethical issues of autonomous systems relevant for automated vehicles;
16. Highlights the expected congestion challenges to urban mobility resulting from the widespread uptake of autonomous vehicles and underlines the need for new solutions incorporating car sharing, ride hailing and other models;

Air transport

17. Stresses the recently adopted EASA regulation on the updated aviation safety rules which include, among other things, provisions offering a sound legal basis for the first-ever set of comprehensive EU rules for all kinds of civil drones; recalls how very necessary the adoption of the EASA Regulation was, given that new technologies, such as unmanned aerial vehicles (UAVs), are also appearing in European skies, and that it required the adaptation of the current EU regulatory framework and diverging national rules;
18. Urges the Commission also to present without delay detailed rules for automated aircraft, which require specific and tailor-made specifications, given that a single UAV and operational approach is not appropriate to ensure the safe integration of automated aircraft into airspace shared with manned aircraft; recalls that UAVs will need safe and certified intelligence systems, as well as a specific air space and management

¹ OJ L 123, 19.5.2015, p. 77.

environment;

19. Recalls the 2016 Warsaw Declaration on Drones as a leverage for jobs and new business opportunities; reiterates the importance of the planned actions to develop the EU drone ecosystem, which are expected to be in place by 2019, and to build on the guiding principles of the Riga Declaration;

Waterborne transport

20. Underlines the potential and added value of autonomous ships, especially on inland waterways and in short-sea shipping, which can lead to a decrease in the number of maritime accidents, most of which stem from human error;
21. Calls on the Commission to outline and define the levels of automation for both inland and sea navigation and common standards in order to harmonise and stimulate the uptake of autonomous ships;
22. Calls for more projects such as Maritime Unmanned Navigation through Intelligence in Networks (MUNIN), co-funded by the EU under its Seventh Framework Programme to further develop autonomous shipping technology in the EU;

Rail transport

23. Calls on the Commission, together with industry, to create common protocols and standards enabling autonomous train and light-rail systems;
24. Underlines the growing challenges to urban mobility related to congestion, as well as the opportunities afforded by automated public transport systems to tackle those challenges; calls on the Commission and the Member States to promote and support projects addressing those challenges through automated public transport innovations;

Consumer rights

25. Calls on the Commission to create comprehensive rules for driver or operator responsibilities at every level of automation across all modes of transport; underlines that those responsibilities need to be clearly communicated through commercial labelling or other forms of communication;

Research and educational needs

26. Stresses the need to develop key autonomous technologies (e.g. formalisation and simulations of the human brain and cognition when driving, environmental perception systems and artificial intelligence) in the EU to keep up with competition and to create jobs;
27. Calls for initiatives to map and address issues of changes in employment demands in view of the need for new skills both in vehicle production and professional usage through educational reconversion;
28. Urges the Commission, together with the Member States, to propose initiatives promoting the skills and education needed to keep the EU at the forefront of the

autonomous vehicle sector;

29. Recalls the EUR 300 000 000 dedicated under Horizon 2020 to research and innovation programmes on automated vehicles from 2014 to 2020 and recommends that these programmes be continued and extended in the next multiannual financial period for 2021-2027 (Horizon Europe);
30. Stresses the need for real-life testing sites across the EU in order to thoroughly test and develop new technologies; urges each of the Member States to designate, by 2020, urban and extra-urban areas where autonomous research vehicles can be tested in real-life traffic conditions, while safeguarding road safety in those areas;
31. Calls for extensive research on the long-term effects of autonomous transport on issues such as consumer adaptation, societal acceptance, physiological reactions, physical responses and social mobility resulting from driverless transport;

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32. Instructs its President to forward this resolution to the Council and the Commission.

EXPLANATORY STATEMENT

Background

Our mobility system is undergoing profound changes to become more digital, safer and cleaner. Further automation of vehicles in all transport modes, and namely regarding connected and automated road vehicles, together with advances in information and communication technologies provide rich opportunities to improve traffic flows, increase safety for all users and reduce the environmental impacts of transport. At the same time, they hold a strong potential to strengthen the competitiveness of European industry and businesses in and beyond the transport sector. Once available on a large scale and every-day basis, automated mobility is expected to result in significant benefits to our society as regards innovative mobility services in cities and rural areas, more flexible public transport and better tailored choices for all citizens.

While technological progress is rapid and vigorously pursued internationally, there remain significant issues related to the development and integration of automated vehicles and related mobility services concerning technical standards of vehicles and infrastructure, the use, safety and privacy of data, responsibilities in vehicle operations, liability, ethics, societal acceptance and the co-existence of automated with human controlled vehicles.

Regarding connected and automated road transport, initiatives by Member States, industry and the Commission already tackle important elements of an integrated policy in the field, including both vehicle related aspects (namely the GEAR 2030 report) as well as transport and communication infrastructure (namely the European strategy on C-ITS). Following the Declaration of Amsterdam of 2016 on cooperation in the field of connected and automated driving, work is further ongoing within the Council High Level Meetings on autonomous driving. The European Parliament in March 2018 in its resolution on the C-ITS strategy recommended, *inter alia*, strengthening the EU legislative framework to ensure EU-wide cross-border interoperability and liability rules for connected transport, to provide rules for access to in-vehicle data.

With its Communication on an EU strategy for the mobility of the future, to which this report relates, the Commission sets out a European agenda, including a common vision and identifying supporting actions for the development and deployment of key technologies, services and infrastructure related essentially to autonomous driving on roads. The envisaged shorter-term initiatives include contributions of automated mobility to the Vision Zero by 2050 project to reduce road fatalities, support of infrastructure deployment through the Connecting Europe Facility, 5G testing and legislative proposals with a view to the safe implementation of automated mobility. In particular, the proposed revisions of the Road Infrastructure Safety Directive and of the General Safety Regulation for motor vehicles aim to integrate specific safety considerations related to automated driving in the EU legislation.

Your Rapporteur's views

The connected and automated car is currently spearheading developments of automated mobility. Passenger cars with automated driving functions beyond the current level 3 are bound to enter European road transport very soon from 2020 on and technologies will further advance and extend to all types of road transport, including utility vehicles and trucks. It is therefore imperative to continue and intensify at all levels the related efforts: regarding the

regulatory framework, research and innovation, real-life testing and deployment of vehicles and road and communication infrastructure. It is key for Europe to stay at the forefront of this field, in order to reap the benefits of automated road transport and to successfully compete with the enormous thrust of efforts elsewhere in the US, China or Japan. Your Rapporteur proposes in particular to address in a prompt manner outstanding issues in data protection, vehicle and route data use, and cyber security. Moreover, standardisation efforts at international level, namely in the framework of the UNECE and Vienna Convention, need to be further coordinated and help to ensure seamless interoperability of vehicles across borders. Building on growing experience with level-3 automated cars, research efforts should address new phenomena such as driver complacency. With artificial intelligence systems playing an ever increasing role it is also becoming urgent to develop guidelines on ethical issues of such systems in autonomous vehicles.

In addition to road transport, the potential of automated vehicles is becoming increasingly apparent in the logistics sector, in public transport and also other modes of transport, that is, autonomous vessels in inland waterway transport and short-sea shipping, drones transporting goods (and even air taxis), and automated light rail systems such as in urban public transport. Those fields were unfortunately left untouched by the Commission in its communication.

Regarding air transport, your Rapporteur considers that detailed rules for automated aircraft and their safe integration into airspace need to be presented without delay, building on e.g. the U-Space blueprint of June 2017 and the new EASA Regulation.

Regarding waterborne transport, where autonomous ship can reduce accidents stemming from human error, the Commission should be proactive in stimulating the adoption of autonomous ships and develop a common approach to automation of inland sea navigation along with relevant technical standards.

Regarding rail transport, your Rapporteur underlines the potential of innovative automated public transport systems to tackle urban mobility and congestion challenges and calls for measures to promote and support projects addressing those issues.

With future mobility moving towards automation, it is essential to develop key autonomous technologies and science, through initiatives promoting research, education and training in the field which should be supported for instance under the Horizon Europe programme. In addition, your Rapporteur considers that the potential long-term effects of autonomous/driverless transport in terms of its societal implications merit more research efforts.

Your Rapporteur is also convinced that any policy approach of the EU on autonomous mobility needs to include initiatives to address the likely changes in employment patterns and demand for new skills in vehicle manufacturing and usage.